

# Human Resources Research

THE SELF-ASSESSMENT OF PERFORMANCE: THREE STUDIES

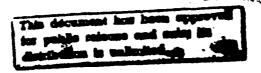
Cynthia D. Fisher and Greg Chachere

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Texas A&M University and Virginia Polytechnic Institute





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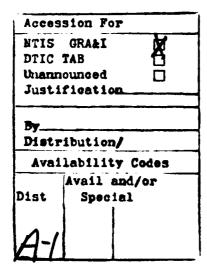
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Overall, it is concluded that the process of self-assessment is not well understood.





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# THE SELF-ASSESSMENT OF PERFORMANCE: THREE STUDIES

Research on performance appraisal over the last decade has greatly enhanced our understanding of the process by which superiors appraise the performance of their subordinates (c.f. Ilgen and Feldman, 1983; Kozlowski, Kirch, and Chao, 1986; Mitchell and Wood, 1980; Nathan and Alexander, 1985). However, very little is known about the concurrent process of subordinate self-appraisal (Fisher and Russ, 1986). Subordinates undeniably have beliefs about their own performance levels. These beliefs are seldom explicitly reported, but seem likely to impact subordinate behavior and responses to feedback from the superior. For instance, Shaw and Fisher (1986) found that subordinates who disagreed with their superior about their performance reported lower expectancies, much less satisfaction with the superior, less overall satisfaction and commitment, and more role conflict and ambiguity than those who agreed with their superior's appraisal.

In general, disagreement seems more common than agreement.

A number of studies have found mean differences when comparing ratings of subordinate performance made by subordinates and superiors. Subordinates usually, but not

always (c.f. Heneman, 1974), rate themselves as better performers than do their superiors (Kirchner, 1965; Klimoski and London, 1974; Prien and Liske, 1962, Shapiro and Dessler, 1985; Shore and Thornton, 1986; Thornton, 1968). Further, the correlation between superior and subordinates ratings is often quite low. For example, Baird (1977), Brief, Aldag, and Van Sell (1977), Heneman (1974), Holzback (1978) Klimoski and London (1974), Lawler (1967), Prien and Liske, 1962, and Thornton (1968) all found mean or median correlations of superior-subordinate ratings lower than .27 (across subordinates on a variety of performance dimensions). However, there do seem to be conditions under which superior and self assessments converge to a greater than usual degree. Brief et al. (1977) and Herold and Parsons (1980) both found that low tenure employees agreed with their superiors more than high tenure employees.

Mabe and West (1982) conducted a meta analysis of the self-rating of ability literature. They found that self-ratings did tend to be correlated with external criteria such as objective measures of ability and superior ratings, but the correlations were often weak. The average sample-size-weighted correlation was .31. When comparing self ratings of ability to external criteria, agreement was higher when subordinates were experienced in self evaluation, realized that their rating might be compared to objective measures, compared themselves to others rather than to an absolute

standard, and were of high intelligence or internal locus of control. In comparing self-ratings to ability level measured in some other way, leniency in self rating was observed in 15 studies, four studies found no tendency to over or under rate and three studies found that self-ratings were underestimates of ability. These findings are consistent with the widespread tendency of subordinates to rate themselves more highly than they are rated by their superiors (Meyer, 1980).

Heneman (1980, p. 298) states that, "Why discrepancies exist among self, peer, and supervisory ratings is not really known, and is very unlikely to be known, until a theoretical foundation is advanced for self assessment in performance appraisal." The purpose of this paper is to begin to explore the accuracy of self-assessments of performance, and to consider some of the factors which may influence accuracy.

One such factor might be task experience. After performing longer, or when performing on a familiar task, one might have the expertise and information needed to self assess accurately. On the other hand, the greater disagreement between superiors and subordinates among experienced workers (Brief et al., 1977; Herold and Parsons, 1980) may indicate that people become less critical evaluators the longer they have been on a job. In this study, experience was

operationalized very simply by asking respondents to rate the extent of their previous experience with similar tasks.

A second factor which might be logically related to accuracy of self assessment is locus of control. People attribute the cause of events or the control of such events either to themselves or to elements outside of themselves. Those who believe they have control over their own lives are said to have an internal locus of control. Those who believe that their lives are controlled by luck, chance, or other people are said to have an external locus of control (Spector, 1982). Individuals who are strongly internal in locus of control tend to see a contingency between their behavior and the reinforcement and feedback they receive. Thus, they attend more to such feedback, learn more from it, and develop more realistic aspirations. Externals tend to believe that their reinforcement is controlled by luck, chance, or other people more than their own behavior, so they attend less to feedback and develop less realistic aspirations.

Phares (1976) reviewed findings regarding diffent types of behavior by internals and externals. He noted that internals exhibited better learning, were more active in seeking new information when that information was relevant to them, and used information better than externals. In addition, two out of three studies of the prediction of

academic performance have found that internals are better able to predict their eventual course grade or to more accurately assess their performance on a test they have just taken (Gilmor and Reid, 1978; Steger, Simmons, and Lavelle, 1973; and Wolfe, 1972). These studies lead to the prediction that that internals will be able to assess their own performance more accurately than externals.

A third factor which may affect accuracy of self assessment is focus of attention. Focus of attention has been treated as a disposition, with individuals being chronically high or low in private self-focus (being introspective), and high or low in public self-focus (awareness of the impression made on others) (Fenigstein, Scheier, and Buss, 1975). A number of other researchers have treated self-focus as a temporary situationally induced state. Private self-focus can be induced by placing the subject in front of a mirror or playing back tapes of the subject's own voice (Carver and Scheier, 1981). The resulting state is quite similar to what Duval and Wicklund (1972) called "objective selfawareness). Public self-focus can be triggered by placing the subject in front of an observer, a video camera, an obvious one-way window, or an audience, thus raising concern about one's public impression.

Carver and Scheier (1981) hypothesize that self-focus increases the tendency to be aware of one's standards or

goals, and to more frequently compare one's behavior to standards. A series of four studies (Scheier and Carver, 1983) has shown that individuals high on self-focus (both public and private, either dispositional or induced) do in fact seek more information about their own performance and choose more diagnostic tasks. These tendencies should result in more accurate self-assessment among the highly self-focused. This idea has not been well researched, but one study gives an indication of its promise. Pryor, Gibbons, Wicklund, Fazio, and Hood (1977) found that subjects were more accurate in reporting their past performance when seated in front of a mirror. The researchers asked students to report their SAT scores, and found that inflated reports came from students whose actual scores were below the median and who were not self-focused. Low scoring students who responded in the presence of a mirror were much more accurate.

Thus, it is hypothesized that self-focus will affect the accuracy of self evaluation. Individuals high on private self-focus should have a more detailed and accurate picture of their own ability based on past performance, should compare current performance to goals and standards more often, and in consequence should be able to assess themselves quite realistically. Predictions for public self-focus are not so clear. In some studies, public self-focus has acted much the same as private self-focus, to

increase information seeking regarding one's own performance (Scheier and Carver, 1983). However, it also seems possible that public self-focus could intensify one's desire to appear competent before others, and so might result in inflated and inaccurate self assessments. Finally, individuals low on both types of self-focus may have a paucity of information on themselves, or may not bother to access the information they do have or compare it to standards very frequently. Thus, their self assessments will probably be inaccurate, but may be as likely to be too low as too high.

The hypotheses to be tested in this research are listed below:

Hypothesis 1: Self ratings will tend to be overestimates of actual performance.

Hypothesis 2: Extent of previous task experience will affect accuracy of self ratings.

Hypothesis 3: Locus of control will be related to accuracy of self assessment, with internals being more accurate.

Hypothesis 4: Self-focus, both public and private, will be related to accuracy of self assessment, with those who are more strongly self-focused being more accurate.

## Study One

#### Procedure

Study one was a correlational study utilizing a dispositional measure of self-focus. One hundred sixty six third year business majors participated in the study to fill a course requirement. Subjects reported to a large room in groups of 30-40, and were told that the research concerned analytical ability. They then worked on a task, rated their performance on several scales, and indicated the extent of their past experience on this type of task. Finally, subjects filled out the self-focus and locus of control questionnaires, were debriefed, and dismissed.

## Task

We attempted to select a task which would result in a wide range of performance, could be objectively scored, and would provide no clear feedback, but on which participants could develop some idea of their probable performance by attending to their feelings of confidence or certainty in answering. The task for study one was taken from a practice book for the Graduate Management Admissions Test. The task was to read a two and one half page case and then determine whether 12 pieces of information from the case were major or minor premises, problems, assumptions, or were irrelevant to the

substance of the case. Performance was simply the number correct out of 12.

#### Measures

Self ratings of performance were made using five different formats. The first measure consisted of 20 pairs of adjectives presented in a seven point semantic differential format. Subjects were to circle the number between the adjectives that best represented their performance on the task. Seven items were fillers (relaxed-tense) while 13 were scored (skilled-not skilled, competent-not competent, bad-good, etc.). This scale was adapted from a similar 40 item scale developed by Stone and Stone (1984). Coefficient alpha for this and all other multi-item scales used in studies one, two, and three are shown in Table 1. The second performance measure asked participants to assign one of 13 letter grades from A+ to F to their performance on the task. The third scale asked for an estimate of their percentile score on the task, compared to all the other students from their class who would participate in the research project. The meaning of a percentile score was explained in the stem of the question. The fourth measure asked for an estimate of the number of items answered correctly out of 12, while the fifth measure required an overall assessment of how well they had performed on the

task. The latter used a seven point scale with anchors ranging from 1=very poorly to 7=very well.

Insert Table 1 About Here

Previous experience on the task was rated next, on a four point scale with anchors, 1=I've never done anything like this before, 2=I've occassionally done something a little like this, 3=I've occassionally some something a lot like this, and 4= I've often done something a lot like this task.

Locus of control was assessed with the 40 item NowickiStrickland Internal-External Scale for Adults (Nowicki and
Duke, 1973). Dispositional self-focus was measured by the
Self Consciousness Scale developed by Fenigstein et al.
(1975). Items are rated on a five point scale as to whether
they are uncharacteristic or characteristic of the
respondent. The private self consciousness scale contains
10 items, such as "I'm always trying to figure myself out."
and "I reflect about myself a lot." The public self
consciousness scale contains seven items, including "I'm
concerned about what other people think of me." and "I
usually worry about making a good impression." Further
information on the validity of these two subscales can be
found in Carver and Scheier (1981, pp 45-49).

#### Results

Respondents clearly over estimated their performance on the case analysis task. The actual number of correct responses out of 12 averaged 5.9 and ranged from 2 to 11. Estimates of performance had a mean of 8.7 and raged from 4 to 12. Accuracy was calculated by subtracting each person's estimated performance from his or her actual performance. Accuracy averaged -3.0. Nine of 166 subjects estimated their performance correctly, nine underestimated their performance slightly, and the rest overestimated their performance. The average correlation between performance and the five self rating measures was .20 (p < .02).

Degree of previous task experience was negatively related to accuracy (r = -.25, p < .01), indicating that subjects who had done this type of task before were less able to evaluate their performance accururately than were those to whom the task was novel. Neither locus of control nor public self-focus were related to accuracy, but private self-focus was (r = -.19, p < .01). Those high on dispositional private self-focus were less accurate in assessing their performance than those low on private self-focus.

It was expected that individual differences would moderate the relationship between self rated performance and actual performance, such that there would be a stronger

relationship between actual performance and self rated performance for high self-focused or internal individuals than for low self-focused or external individuals. Hierarchical moderated regression was used to test these hypotheses. Each of the five self rated performance measures was predicted by actual performance, a measure of locus of control or self-focus, and their product. Of the fifteen equations, one was marginally significant. predicting estimated number correct from actual number correct, private self-focus, and their interaction, the interaction term increased the multiple correlation from .287 to .323 (F = 3.03, 1,128, p < .10). The direction of the interaction was such that self ratings and actual performance were less closely related for those high on private self-focus than those low on self-focus. The respective subgroup correlations of .18 and .49 were significantly different from each other (p < .05).

## Study Two

In retrospect, the task in study one seemed quite difficult and obtuse, despite the fact that a short sample case with correct answers had been given prior to work on the main case. Studies two and three were undertaken to see whether participants could more accurately assess their performance on different types of tasks, or whether individual differences related to accuracy might have more leeway to

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operate on a clearer task. Other than the tasks, the procedure and measures in study two were identical to those in study one. One hundred and sixteen business majors participated in study two.

#### Tasks

Two price estimation tasks were developed for study two. The "grocery estimation task" required subjects to estimate to the nearest 10 cents the price of 10 items available in any grocery store, such as a six and one half ounce can of Star-Kist tuna packed in oil, one pound of Velveta cheese, and 12 ounces of Nestle's chocolate chips. The correct answers to this task were based on the average prices of the items across three major grocery chains operating in the local area. Participants were told that an estimate would be considered correct if it was within 10% plus or minus of the true average price of the item. The "catalog estimation task" required subjects to estimate to the nearest dollar the price of 10 items from a current Sears catalog, such as a Sears Die Hard 60-month auto battery, a Rawlings leather basketball, and a Colormate full size fitted sheet. Again, answers within plus or minus 10% of the true price were considered correct.

Performance on each estimation task was scored in two ways.

First, the number of items out of the 10 which fell within

the correct range was totaled. Second, for items outside the correct range, the deviation from the nearest bound of the range was computed, and the absolute values of these deviations were summed to produce a total deviation score.

#### Results

Once again, participants were quite inaccurate in estimating their own performance. The average number of items priced correctly in the grocery task was 1.75 out of 10, while the average self rating of the number correct was 5.71.

Corresponding figures for the catalog task were 1.11 and 5.55, indicating gross over estimation of performance.

Correlations between the five self rating measures and the two actual performance measures (number correct and total deviation from the correct range) were all low and non-significant.

Accuracy of self assessment was calculated as the actual number correct minus the self rated number correct.

Accuracy was not related to previous experience, locus of control, or public or private self focus for either task.

Moderated regression was undertaken to determine whether individual difference variables might affect the relationship between actual and self rated performance.

None of the regression equations using number correct as the performance measure had significant interaction terms. This

may be due to the fact that number correct had very little variance, with over 70% of the sample falling into the same two categories (0 or 1 correct for the catalog task and 1 or 2 correct for the grocery task). Regressions using total deviation from the correct range as the performance measure were more fruitful. There were ten sets of equations computed for locus of control (five self rated performance measures on two tasks), of which one had a significant interaction term and one approached significance. The locus of control interactions indicated that there was a stronger relationship between self rated performance and actual performance for internals than for externals, as had been predicted. For the ten sets of equations including public self-focus, two had significant interaction terms and two more approached significance. For private self-focus, three interaction terms were marginally significant. These results are reported in Table 2. Six of the seven interactions involving self-focus were quite similar to each other. A typical pattern is shown in Figure 1. The predominant form of the interaction was that under low selffocus, larger deviations from the correct range (lower performance) were associated with lower, that is, more correct, self ratings.

Insert Table 2 and Figure 1 About Here

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# Study Three

This study utilized a sample of 123 subjects from the same population of business majors. In this study, we were not concerned with locus of control, but only with self-focus, whether dispositionally or situationally induced.

Task

The task in study three was to proof read a four and one half page exerpt from an article on organizational ecology. The text was chosen for its obscurity and utter lack of interest to undergraduate students. Errors in spelling and punctuation were inserted into the text. Performance was scored on two dimensions: number of true errors missed, and number of correct elements mistakenly marked as errors. Two scorers were involved in scoring the proof reading task. Most subjects' work was scored by only one person, but a subset was scored independently by both scorers in order to provide an estimate of inter-rater reliability. Correlations between scorers were in the .90s for each dimension.

Subjects rated their performance on the proof reading task using the same measures as in the previous studies (semantic

differential, grade, percentile, and overall performance scales). In addition, they rated themselves on two other scales. The first asked subjects to estimate how many errors they had failed to detect, on a 17 point scale ranging from zero undetected errors to 16 or more. The second question asked for an estimate of how many times they had marked something as an error which was not an error, and was answered by filling in a blank with the estimated number of times. Two measures of accuracy were computed. The first was the actual number of errors missed minus the subject's estimate of the number missed. The second was the number of correct elements in the text mistakenly marked as errors minus the subject's estimate of correct elements

#### Procedure

Subjects reported to the laboratory in groups of up to six and were run in six individual rooms. Three self-focus conditions were created. In the private self-focus condition, subjects were seated at a table facing a mirror while they worked on the task. To justify the presence of the mirror, there was a note on the blackboard above the mirror saying, "Please do not disturb or remove the mirror-in use for Marketing 683 Advanced Salesmanship class exercises." In the high public self-focus condition, subjects were led to believe that they were being observed

and videotaped from the control room. Subjects in this condition were shown the functioning monitor screens in the control room prior to beginning work, and were told that the experimenter would be watching them so he could bring them a questionnaire when they finished the task. Subjects were also told that they would be videotaped by a second graudate student not connected with this experiment, who was interested in the nonverbal behavior of persons working on cognitive tasks. They were then led to their rooms and seated opposite a ceiling mounted camera. Subjects in the low self-focus condition were simply placed in rooms without a mirror or camera. Subjects worked on the proof reading task then filled out the self-assessment measures.

#### Results

Actual performance measures indicated that subjects failed to detect an average of 18 out of 35 possible errors which had been inserted into the text. In addition, they mistakenly identified as errors an average of three correct elements. Subjects' estimates of their performance on these two dimensions were 6 and 2 respectively. Once again, participants over estimated their own performance. On the first measure, they over estimated by 300%.

The correlations between actual and self rated performance were somewhat more encouraging than in studies one and two.

The four evaluative self ratings had an average correlation of -.37 with number of true errors missed, and -.16 with correct elements mistakenly marked as errors. The proof reading task should have been much more familiar to college students than the GMAT or price estimation tasks. Further, students usually get feedback on the number of typographical errors missed after each time they turn in a paper in a class. Thus, they either may have developed a better ability to self assess current performance on this dimension, or they may have had a fairly accurate pre-existing self-assessment of their typical proof reading ability which they reported on the self rating scales.

Never-the-less, in an absolute sense they were still far from accurate in evaluating their own performance.

Turning to the experimental portion of the study, the effect of self-focus condition on rating was assessed. First, the two accuracy measures were used as dependent variables in one-way anovas. There were no significant differences in accuracy as a function of self-focus condition. Second, each evaluative self rating was used in turn as a dependent variable while holding actual performance constant via analysis of covariance. Covariates were number of true errors missed and number of correct elements mistakenly marked as errors. These analyses permitted us to determine whether, given equal true performance, self assessments were higher or lower under the public, private, or no self-focus

condition. None of the analyses produced a significant effect for self-focus. Thus, the presence of a mirror or camera did not seem to result in either inflation or deflation of self ratings of task performance.

Our results seem to conflict with those of Pryor et al. (1977), who found that situationally self-focused subjects reported their poor scores on the SAT more accurately. However, the situation in that study was somewhat different from the present study, in that their subjects had received extremely clear and specific feedback on their SAT scores at some time in the past. Their experimental task was simply to recall and report an objective score. In the present study, subjects were given no feedback, and had to reach a subjective assessment of their own performance on a reasonably familiar task. Situational self-focus did not seem to result in any distortions of this process.

#### Discussion

It seemed that the estimation tasks in study two were even more difficult to self assess correctly than performance on the GMAT task in study one. Again, the predominant tendency was to over estimate one's own performance by a large margin. There was some evidence that individual differences moderate the relationship between performance and self ratings. The finding that internals were able to rate

themselves more in line with their actual performance than externals must be considered somewhat tentative since only two of the ten sets of equations involving locus of control showed evidence of the predicted interaction, though this finding is consistent with past research on locus of control (c.f. Steger et al.).

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The evidence for dispositional self-focus is somewhat stronger, with both public and private self-focus moderating the relationship between performance and various self rating measures. The interactions found for self-focus were opposite in direction to those predicted. Individuals who dispositionally attend more to themselves and/or the impression they make on others were expected to be more aware of their performance and to be able to rate themselves more accurately, when in fact the reverse was found to be true. Perhaps self-focused individuals do think more about their performance, but while thinking they modify the incoming data with self-consistency or self-enhancement biases, resulting in a self assessment which is less tied to reality than that arrived at spontaneously by individuals who are low on self-focus. In study one, high public selffocus individuals did rate themselves significantly more favorably on three of the five performance measures, though they did not do so in study two. Perhaps performing well on a GMAT-like test of problem solving is more important to students' self image than remembering the prices of grocery

items, so that those concerned with making a good impression tended to inflate their ratings on the former task but not the latter.

Overall, the results of these studies shed relatively little light on the process of self assessment. Self-focus or locus of control and their interactions with actual performance explained a maximum of 2.9% of the variance in rated performance. Actual performance accounted for still less variance, and self ratings were wildly inaccurate. Never-the-less, subjects somehow managed to form consistent judgments about their own performance, as evidenced by the high internal reliability of the semantic differential self rating scale. Where did these judgments come from? To what extent would subjects cling to these inaccurate self assessments if provided with disconfirmatory feedback? Clearly, understanding the mental processes underlying self assessment is quite important, and a great deal more research is needed.

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Table 1
Reliability of Measures

	Study 1	Study 2
Semantic Differential Self Rating	.91	.93 .91
Public Self Consciousness Private Self Consciousness	.77	.81
	.64	.62
Locus of Control	.61	.67

Moderated Regressions Predicting Self-Ratings from Deviation Measure of Peformance and Individual Differences

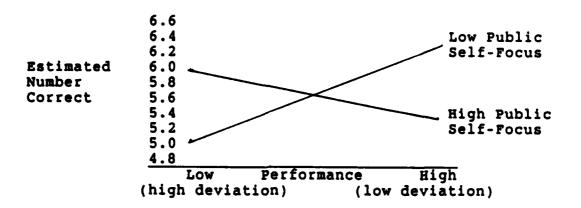
·	Grocery Task		
DV = Grade	R	df	F(step)
Performance (P) Public Self-Focus (PUSF) P x PUSF	.16	1,107	2.86*
	.20	1,107	1.65
	.26	1,107	3.07*
P Private Self-Focus (PRSF) P x PRSF	.16	1,107	2.82*
	.16	1,107	.04*
	.23	1,107	3.08*
DV = Overall Self Rated Performance			
P	.07	1,107	.56
Pusf	.14	1,107	1.82**
P x Pusf	.24	1,107	4.03
P	.07	1,107	.55
PRSF	.08	1,107	.08 <sub>*</sub>
P x PRSF	.19	1,107	3.44*
DV = Estimated # Correct			
P Pusf P x Pusf	.09 .10 .25	1,106 1,106 1,106	1.02 1.13 6.25**
	! •	Catalog Ta	<u>sk</u>
P	.05	1,106	.27
Locus of Control (LOC)	.14	1,106	1.91
P x LOC	.23	1,106	3.88
DV - Semantic Differential			
P	.08	1, 97	.78
PUSF	.09	1, 97	.81
P x PUSF	.21	1, 97	3.54*
P	.09	1, 97	.72
PRSF	.15	1, 97	1.55
P x PRSF	.24	1, 97	3.40*a

. 0.9	1, 97	.73
.10	1, 97	.31
.26	1, 97	6.04**
	.10	.10 1, 97

p < .10 p < .05 <sup>a</sup>This interaction is in the opposite direction from the others.

Figure 1

Moderating Effect of Public Self-Focus on the Relationship between Performance and Self Rated Performance



 $Y = -1.16(P) + -.28(PUSF) + .055(P \times PUSF) + 11.62$ 

Graph shows predicted Y for values for plus and minus one standard deviation from the mean on performance and public self-focus.

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